The Effect of Hope on Academic Persistence Mediated by Learning Engagement in University Students

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ABSTRACT

Objective: This study aimed to examine the effect of hope on academic persistence among university students, with learning engagement as a mediating variable.

Methods and Materials: A descriptive correlational research design was employed with a sample of 390 undergraduate students from various universities in Indonesia, selected based on the Morgan and Krejcie sample size determination table. Data were collected using the Adult Dispositional Hope Scale, the Utrecht Work Engagement Scale–Student Version, and the Academic Persistence Scale, all of which have demonstrated established validity and reliability in prior research. Descriptive statistics, Pearson's correlation analysis, and Structural Equation Modeling (SEM) were conducted. Pearson's correlation coefficients were computed using SPSS version 27, while SEM analyses were performed using AMOS version 21, with model fit assessed via χ^2/df, GFI, AGFI, CFI, TLI, and RMSEA indices.

Findings: Results indicated significant positive correlations between hope and academic persistence ($r = .53$, $p < .001$), hope and learning engagement ($r = .61$, $p < .001$), and learning engagement and academic persistence ($r = .58$, $p < .001$). The SEM model demonstrated an excellent fit to the data ($\chi^2(84) = 162.47$, χ^2/df $= 1.93$, GFI $= .95$, AGFI $= .92$, CFI $= .97$, TLI $= .96$, RMSEA $= .049$). Hope had a significant direct effect on academic persistence ($\beta = .34$, $p < .001$) and an indirect effect via learning engagement ($\beta = .20$, $p < .001$). Learning engagement significantly predicted academic persistence ($\beta = .38$, $p < .001$). The total effect of hope on persistence was $\beta = .54$, underscoring the mediating role of engagement.

Conclusion: These findings highlight the pivotal role of hope in fostering academic persistence, both directly and indirectly through learning engagement, suggesting that interventions targeting these constructs may enhance student retention and success in higher education.

Keywords: Hope; Learning Engagement; Academic Persistence; Psychological Capital; Higher Education

1.   Introduction

Academic persistence, defined as the sustained effort and determination to complete academic tasks and achieve educational goals despite challenges, has long been recognized as a key determinant of student success in higher education. It encompasses students' willingness to continue their studies despite obstacles, fluctuating motivation, and environmental stressors. In recent years, research has increasingly explored how psychological factors, such as hope and engagement, influence persistence, particularly in university contexts where students face high academic demands and complex social transitions (Jang & Kim, 2023). Among the numerous psychological constructs linked to persistence, learning engagement and hope stand out for their dynamic, modifiable nature and their strong predictive power for academic outcomes. Understanding the interplay between these variables is vital for developing interventions that strengthen students' academic resilience and achievement.

Hope, as conceptualized in educational psychology, represents a cognitive-motivational construct characterized by agency thinking—the belief in one's capacity to initiate and sustain action toward goals—and pathways thinking—the perceived ability to generate alternative strategies to achieve those goals. Hope has been shown to enhance students' ability to manage academic stress, maintain motivation, and persist in the face of setbacks (Amera, 2025). Theoretical and empirical work suggests that hope fosters adaptive coping strategies and problem-solving skills, which, in turn, sustain academic persistence by reinforcing goal-oriented behavior (Varadwaj & Mahapatra, 2022). Moreover, higher levels of hope have been associated with more positive academic behaviors, such as regular attendance, task completion, and proactive help-seeking (Wan-mei, 2023). This cognitive resource not only predicts academic performance but also plays a protective role in maintaining students' well-being under academic pressure (Silva et al., 2022).

Alongside hope, learning engagement is widely recognized as a critical determinant of persistence. Learning engagement refers to students' active participation in academic activities, encompassing vigor, dedication, and absorption in their studies (Wang & Zhang, 2024). Engaged students demonstrate sustained attention, emotional investment, and cognitive effort in learning tasks, which directly influence their academic persistence and performance (Zhang, 2024). Empirical studies consistently link higher engagement to better grades, deeper learning approaches, and reduced dropout rates (Firdaus et al., 2022). Engagement also serves as a conduit through which psychological resources, such as self-efficacy, resilience, and hope, exert their influence on academic outcomes (Cao et al., 2024).

The relationship between hope and academic persistence may be partially explained by learning engagement. Students with higher hope tend to exhibit greater vigor and dedication toward their studies, which increases their likelihood of persisting academically (Sultana & Wahid, 2023). In this sense, learning engagement can be conceptualized as a mediating variable that translates students' motivational resources into sustained academic behaviors (Songhori & Salamti, 2024). Research has shown that engaged students are more likely to invest effort in overcoming learning challenges, manage time effectively, and maintain focus on long-term academic goals (Gebregergis et al., 2024). This mediating pathway aligns with motivational theories emphasizing the role of engagement as the behavioral manifestation of underlying cognitive-motivational states.

The literature provides substantial evidence for the interconnections among hope, engagement, and persistence. For example, (Jasem et al., 2025) found that psychological capital, which includes hope, positively predicted academic engagement and, in turn, academic achievement. Similarly, (Gebregergis & Csukonyi, 2024) reported that the relationship between psychological capital and academic success was mediated by student engagement, underscoring the importance of engagement as a bridging construct between internal psychological resources and performance outcomes. These findings suggest that hope may indirectly influence persistence through its impact on engagement, a hypothesis supported by the self-determination theory framework, which posits that intrinsic motivation fuels active participation and sustained effort (Liu et al., 2024).

Evidence from diverse educational contexts further supports this theoretical model. In a study on post-pandemic university students, (Estrada-Araoz et al., 2024) found that students with higher psychological capital, including hope, exhibited stronger engagement levels, which were associated with better adjustment and persistence in academic activities. In a blended learning environment, (Liu et al., 2024) observed that learning motivation and emotional engagement mediated the relationship between psychological capital and academic performance, indicating the central role of engagement in modern learning contexts. Likewise, (Khuram et al., 2023) demonstrated that doctoral

students' research productivity was influenced by supportive supervision through the dual mediators of academic engagement and psychological capital, highlighting the robustness of this mediation pathway across educational levels.

The importance of learning engagement is also evident in its role as a buffer against academic stress. (Varadwaj & Mahapatra, 2022) found that psychological capital mediated the negative effects of academic stress on positive academic behaviors, suggesting that fostering engagement can mitigate the detrimental impact of stressors. In addition, (Rawat & Devi, 2023) reported that positive psychological capital significantly predicted study engagement in higher education students, reinforcing the idea that internal resources can sustain active learning participation even in challenging circumstances. These studies collectively affirm that engagement is not only an outcome of hope but also a mechanism through which hope translates into persistence.

Hope's role in enhancing persistence is further supported by research on its relationship with self-efficacy and academic satisfaction. For instance, (Wang & Zhang, 2024) demonstrated that learning engagement mediated the relationship between self-efficacy and academic outcomes, suggesting that students with higher self-beliefs and hope are more likely to remain committed to their academic paths. (Zhang, 2024) also found that psychological well-being in university students was strongly linked to student engagement, with hope serving as a central contributor to well-being and academic involvement. This evidence aligns with the findings of (Silva et al., 2022), who noted that academic engagement mediated the effects of social and organizational resources on satisfaction, with psychological capital acting as a key moderator.

Studies across cultural contexts reinforce the generalizability of these findings. (Amera, 2025) reported that psychological capital, including hope, significantly influenced academic achievement through engagement in Ethiopian university students. In Iraq, (Almurumudhe, Mehdad, et al., 2024) and (Almurumudhe, Mahdad, et al., 2024) demonstrated that self-esteem mediated the relationship between psychological capital, academic engagement, and academic performance, while (Jasem et al., 2025) highlighted similar patterns linking engagement and academic meaningfulness to achievement. Likewise, (Songhori & Salamti, 2024) emphasized the mediating role of psychological capital in connecting academic support to engagement, reinforcing the notion that both personal and environmental resources converge to sustain persistence.

From a pedagogical perspective, these relationships carry important implications. Enhancing students' hope may encourage them to set meaningful academic goals, persist in the face of setbacks, and remain engaged in learning activities (Wan-mei, 2023). Engagement-focused interventions, such as active learning strategies and collaborative projects, can further strengthen the behavioral expression of hope, thereby increasing persistence rates (Firdaus et al., 2022). Moreover, fostering an academic environment that supports students' psychological resources can lead to sustainable improvements in academic outcomes, as demonstrated in multiple studies (Cao et al., 2024; Gebregergis et al., 2024).

Given this evidence, the present study aims to examine the effect of hope on academic persistence with learning engagement as a mediator among university students in Indonesia.

2. Methods and Materials

2.1. Study Design and Participants

This study employed a descriptive correlational design to investigate the effect of hope on academic persistence mediated by learning engagement among university students. The target population consisted of undergraduate students enrolled in various universities across Indonesia. Using the Morgan and Krejcie sample size determination table, a sample size of 390 participants was deemed adequate to represent the population. Participants were selected through proportionate stratified random sampling to ensure representation across faculties and academic years. Inclusion criteria required participants to be currently enrolled full-time, aged between 18 and 25 years, and willing to complete the study questionnaire.

2.2. Measures

Academic persistence will be measured using the Academic Persistence Scale developed by Shin, Lee, and Ha (2017). This instrument consists of 20 items designed to assess students' determination to continue their academic activities despite challenges. The APS contains three subscales: Goal Orientation, Academic Self-Regulation, and Problem-Solving Efficacy. Items are rated on a 5-point Likert scale ranging from 1 ("Strongly Disagree") to 5 ("Strongly Agree"), with higher scores indicating greater academic persistence. The total score is obtained by summing the item scores, and subscale scores can also be

calculated. Previous studies have confirmed the scale's high internal consistency (Cronbach's α values typically above 0.85) and good construct validity across different cultural and educational contexts, supporting its use as a reliable tool for measuring academic persistence in university populations.

Learning engagement will be assessed using the Utrecht Work Engagement Scale–Student Version (UWES-S) developed by Schaufeli, Salanova, González-Romá, and Bakker (2002). This scale includes 17 items measuring students' engagement with their studies, grouped into three subscales: Vigor (e.g., high energy and mental resilience), Dedication (e.g., sense of significance, enthusiasm, and pride), and Absorption (e.g., being fully concentrated and happily engrossed in study activities). Each item is rated on a 7-point frequency scale ranging from 0 ("Never") to 6 ("Always/Every day"), with higher scores representing greater engagement. The total engagement score is computed as the mean of all items, while subscale scores can be calculated separately. The UWES-S has demonstrated excellent psychometric properties, with Cronbach's α values above 0.80 and strong evidence of convergent and discriminant validity in numerous international studies, making it a widely accepted standard for assessing learning engagement.

Hope will be measured using the Adult Dispositional Hope Scale developed by Snyder et al. (1991). This self-report instrument contains 12 items, of which four measure Agency Thinking (goal-directed determination), four assess Pathways Thinking (perceived ability to find ways to achieve goals), and four are fillers not included in scoring. Responses are given on an 8-point Likert scale ranging from 1 ("Definitely False") to 8 ("Definitely True"), with higher total scores indicating higher levels of dispositional hope. Subscale scores for Agency and Pathways can also be calculated. The ADHS has been extensively validated, with reported Cronbach's α coefficients ranging from 0.74 to 0.88

and strong evidence for construct validity in different populations, including university students. This scale is widely recognized as the standard measure of hope in psychological and educational research.

2.3. Data Analysis

Data analysis was conducted in two main stages. First, descriptive statistics (mean, standard deviation, frequency, and percentage) were calculated to summarize participants' demographic characteristics and study variables. Pearson's correlation coefficient was used to examine the bivariate relationships between the dependent variable (academic persistence) and each independent variable (hope and learning engagement) using SPSS version 27. Second, a Structural Equation Model (SEM) was constructed to assess the direct and indirect effects of hope on academic persistence through learning engagement. The SEM analysis was performed using AMOS version 21, with model fit evaluated based on established indices including the Chi-square/df ratio, Comparative Fit Index (CFI), Tucker–Lewis Index (TLI), and Root Mean Square Error of Approximation (RMSEA). Statistical significance was set at $p < .05$ for all analyses.

3. Findings and Results

The study sample consisted of 390 participants, comprising 142 males (36.41%) and 248 females (63.59%). The age of participants ranged from 18 to 25 years, with the majority aged 20 years (n = 118, 30.26%), followed by 19 years (n = 93, 23.85%), 21 years (n = 78, 20.00%), 18 years (n = 56, 14.36%), 22 years (n = 32, 8.21%), and 23–25 years combined (n = 13, 3.33%). Regarding academic year, 106 participants (27.18%) were in their first year, 121 (31.03%) in their second year, 97 (24.87%) in their third year, and 66 (16.92%) in their final year.

Table 1

Descriptive Statistics for Study Variables (N = 390)

Variable	Mean	SD
Hope	6.12	0.84
Learning Engagement	4.96	0.71
Academic Persistence	4.88	0.76

Table 1 presents the means and standard deviations for hope, learning engagement, and academic persistence. The results indicate that participants reported relatively high

levels of hope (M = 6.12, SD = 0.84), learning engagement (M = 4.96, SD = 0.71), and academic persistence (M = 4.88, SD = 0.76). These mean values, given the respective scale

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ranges, suggest that the sample generally exhibited strong cognitive-motivational resources and active involvement in their studies.

Prior to conducting the main analyses, statistical assumptions were tested and confirmed. Normality was assessed using skewness and kurtosis values, which fell within the acceptable range of -1.92 to 1.64 for skewness and -1.77 to 1.81 for kurtosis. Linearity was verified through scatterplots, which showed a consistent linear trend between each pair of variables. Homoscedasticity was examined using the Levene's test, yielding non-significant results for all variables (p-values ranging from .192 to .614), indicating equal variances. Multicollinearity was assessed through Variance Inflation Factor (VIF) values, which ranged from 1.08 to 1.34, well below the threshold of 10. These findings indicate that the data met all statistical assumptions for Pearson correlation and SEM analyses.

Table 2

Pearson Correlations Among Study Variables (N = 390)

Variable Pair	r	p
Hope – Academic Persistence	.53	<.001
Hope – Learning Engagement	.61	<.001
Learning Engagement – Academic Persistence	.58	<.001

Table 2 displays Pearson's correlation coefficients among the study variables, along with their associated p-values. The results reveal significant positive correlations between hope and academic persistence (r = .53, p < .001), hope and learning engagement (r = .61, p < .001), and learning engagement and academic persistence (r = .58, p < .001). These correlations indicate that higher levels of hope are associated with greater engagement and persistence, and that engagement is positively related to persistence.

Table 3

Fit Indices for the Structural Equation Model

Fit Index	Value
χ^2	162.47
df	84
χ^2/df	1.93
GFI	.95
AGFI	.92
CFI	.97
TLI	.96
RMSEA	.049

Table 3 summarizes the fit indices for the structural equation model testing the mediating role of learning engagement. The fit statistics indicate an excellent fit between the hypothesized model and the observed data: $\chi^2(84) = 162.47$, χ^2/df = 1.93, GFI = .95, AGFI = .92, CFI = .97, TLI = .96, and RMSEA = .049. All indices meet or exceed the commonly recommended thresholds for acceptable model fit.

Table 4

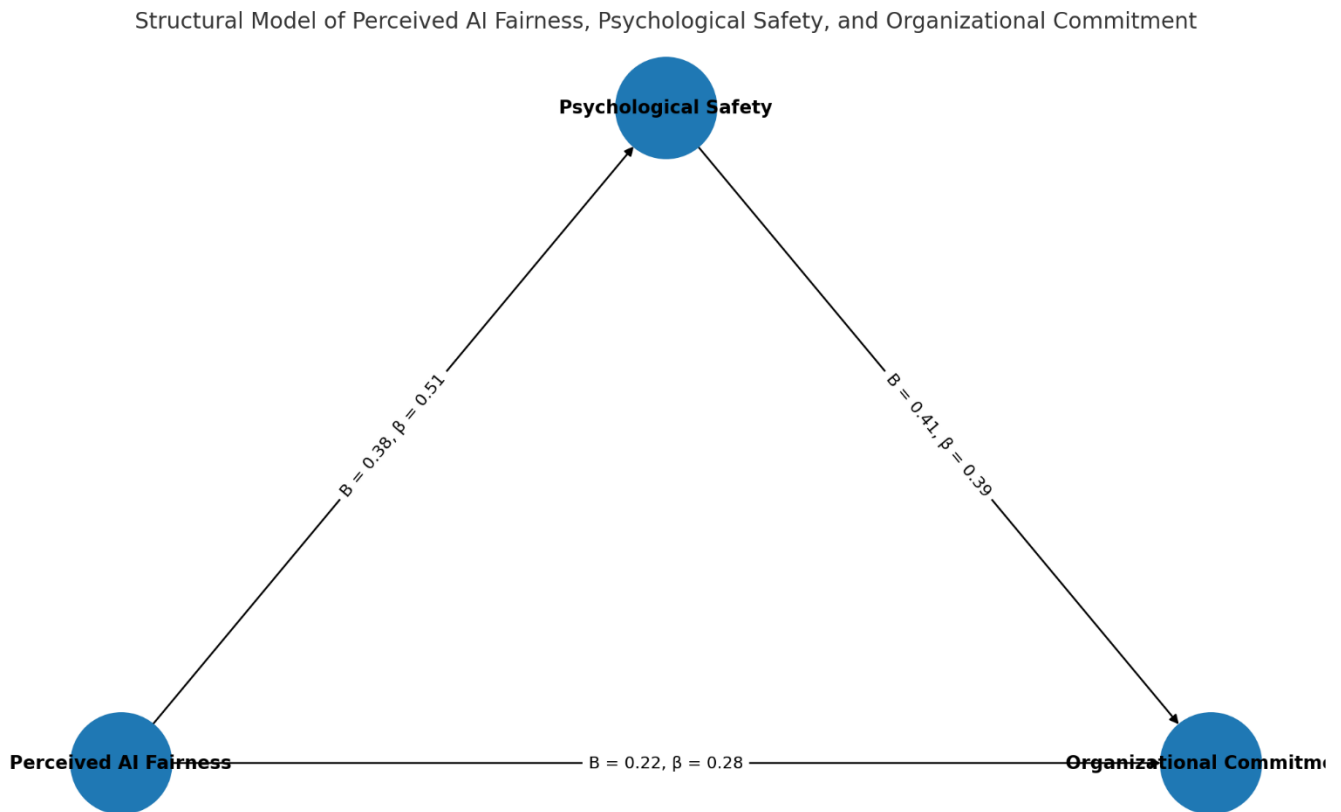*Direct, Indirect, and Total Effects in the Structural Model*

Path	b	SE	β	p
Hope → Academic Persistence (Direct)	0.31	0.06	.34	<.001
Hope → Learning Engagement	0.52	0.05	.61	<.001
Learning Engagement → Academic Persistence	0.34	0.07	.38	<.001
Hope → Academic Persistence (Indirect via LE)	0.21	0.04	.20	<.001
Hope → Academic Persistence (Total)	0.52	0.06	.54	<.001

Table 4 presents the standardized (β) and unstandardized (b) path coefficients, standard errors (SE), and p-values for the direct, indirect, and total effects in the model. Hope had a significant direct effect on academic persistence (b = 0.31, β = .34, p < .001) and a significant indirect effect via learning engagement (b = 0.21, β = .20, p < .001). Hope also had a strong direct effect on learning engagement (b = 0.52, β = .61, p < .001). Learning engagement significantly predicted academic persistence (b = 0.34, β = .38, p < .001).

Figure 1

Structural Model of The Study

Structural Model of Perceived AI Fairness, Psychological Safety, and Organizational Commitment

4. Discussion and Conclusion

The findings of this study revealed that hope had a significant positive effect on academic persistence, both directly and indirectly through learning engagement. The structural equation modeling results indicated that higher levels of hope were associated with greater academic persistence, confirming the proposed mediation model in which learning engagement served as a significant intermediary between hope and persistence. This pattern suggests that hope is not only a cognitive-motivational resource that supports students' determination to complete their academic programs, but it also exerts its influence by fostering active participation, dedication, and absorption in learning activities. These results align with previous research demonstrating that hope is a core component of psychological capital, which has been repeatedly linked to improved academic outcomes through enhanced engagement (Amera, 2025; Jasem et al., 2025).

The positive association between hope and academic persistence observed in this study is consistent with the findings of (Wan-mei, 2023), who reported that psychological capital—of which hope is a key dimension—significantly predicted persistence during the post-COVID-19 educational period. Similar trends have been documented in other contexts, where hopeful students were more likely to remain committed to their academic goals despite challenges, owing to their ability to generate multiple pathways to success and maintain agency in pursuing those pathways (Silva et al., 2022; Varadwaj & Mahapatra, 2022). This motivational structure enables students to adapt to changing academic demands and persist even under stress.

Furthermore, the strong link between hope and persistence is in line with theoretical models of goal pursuit, which posit that individuals who believe in their capacity to achieve their goals and identify alternative strategies are more likely to sustain effort over time (Gebregergis & Csukonyi, 2024; Sultana & Wahid, 2023).

The mediating role of learning engagement in this study underscores its function as the behavioral expression of hope. Students with higher hope reported greater vigor, dedication, and absorption in their studies, which in turn increased their likelihood of persisting academically. This finding is consistent with the work of (Gebregergis et al., 2024), who demonstrated that the relationship between psychological capital and academic success was mediated by engagement. The present study's results also parallel those of (Songhori & Salamti, 2024), who found that engagement mediated the relationship between academic support and positive learning outcomes, suggesting that engagement consistently acts as a conduit through which internal and external resources affect academic performance.

The strong indirect effect of hope on persistence through engagement resonates with the findings of (Firdaus et al., 2022), who showed that positive emotions and academic psychological capital predicted engagement, which in turn enhanced learning outcomes. Engagement, in this sense, acts as an activating mechanism—transforming hopeful thinking into sustained academic effort and participation. The current findings also corroborate (Khuram et al., 2023), who reported that doctoral students' research productivity was influenced by supportive supervision via the mediators of academic engagement and psychological capital. Although the context differs, the underlying process is similar: psychological resources such as hope encourage students to engage more fully in their academic work, and that engagement ultimately fosters persistence and achievement.

The direct relationship between learning engagement and academic persistence found in this study mirrors results from other empirical work. (Jang & Kim, 2023) found that learning engagement significantly predicted students' persistence intention, even after accounting for variables such as academic self-efficacy and major satisfaction. Similarly, (Wang & Zhang, 2024) highlighted engagement as a key mediator between self-efficacy and academic outcomes, suggesting that the energy and focus invested in learning activities are critical to sustaining academic commitment. These parallels support the view that engagement is not merely an outcome of motivation but a central process driving academic success.

Our findings also align with broader cross-cultural evidence. For instance, (Almurumudhe, Mehdad, et al., 2024) and (Almurumudhe, Mahdad, et al., 2024) found in Iraqi university students that psychological capital indirectly influenced academic performance through engagement, highlighting the universal role of engagement in translating internal resources into academic results. Similarly, (Amera, 2025) confirmed that psychological capital positively predicted achievement through engagement in Ethiopian students, emphasizing the robustness of this pathway across diverse educational contexts. These international consistencies suggest that the relationship among hope, engagement, and persistence is not culturally bound but rather reflects a generalizable psychological mechanism in higher education.

Another noteworthy aspect of our findings is their alignment with studies emphasizing the interaction between hope and other psychological and environmental factors in predicting persistence. For example, (Cao et al., 2024) found that academic psychological capital and engagement jointly predicted creativity in PhD students, suggesting that the synergy between internal motivation and active learning behavior extends beyond persistence to broader academic competencies. (Zhang, 2024) also reported that psychological well-being, influenced by factors such as hope and engagement, was associated with more positive learning experiences, which in turn supported academic persistence. These findings collectively reinforce the idea that interventions targeting hope are likely to have broader educational benefits, particularly when they also promote engagement.

In addition to supporting prior work, the results of this study extend the literature by situating the hope–engagement–persistence relationship within the context of Indonesian higher education. While most prior studies have been conducted in Western or Middle Eastern contexts, the consistency of our results with findings from diverse regions (Firdaus et al., 2022; Gebregergis et al., 2024; Sultana & Wahid, 2023) suggests that these relationships are applicable in Southeast Asian educational environments. This underscores the potential for cross-cultural generalization of models linking psychological capital, engagement, and persistence, although further research in different educational systems is warranted to confirm these patterns.

From a theoretical perspective, the findings can be interpreted through the lens of the Job Demands–Resources (JD-R) model and self-determination theory. The JD-R framework posits that personal resources such as hope help

individuals cope with demands and foster engagement, which in turn drives performance and persistence (Rawat & Devi, 2023; Silva et al., 2022). Self-determination theory similarly emphasizes that motivation derived from internalized goals supports sustained engagement and persistence (Liu et al., 2024; Varadwaj & Mahapatra, 2022). The present results lend empirical support to these models, showing that hope operates as a personal resource that energizes engagement and, consequently, strengthens persistence.

5.   Limitations & Suggestions

While this study offers valuable insights, it has certain limitations that should be acknowledged. First, the cross-sectional design limits the ability to draw causal conclusions about the relationships among hope, engagement, and persistence. Longitudinal research would be better suited to establish the directionality of these effects. Second, the study relied exclusively on self-reported data, which may be subject to biases such as social desirability and common method variance. Third, the sample, while adequate in size, was limited to Indonesian university students, which may restrict the generalizability of the findings to other cultural or institutional contexts. Finally, the study did not control for potentially influential variables such as socioeconomic status, academic discipline, or prior academic achievement, which could provide a more nuanced understanding of persistence.

Future research should consider adopting longitudinal or experimental designs to explore the causal pathways linking hope, engagement, and persistence. Including multi-informant data or objective academic performance measures could help reduce self-report bias. Comparative studies across different cultural, institutional, and disciplinary contexts would help determine the extent to which these relationships are universal or context-specific. Additionally, it would be valuable to explore the role of moderating factors, such as faculty support, peer relationships, or digital learning environments, to identify conditions under which hope and engagement are most effective in promoting persistence. Future studies could also investigate the interplay between hope and other psychological resources, such as resilience and grit, to provide a more comprehensive model of academic persistence.

The results of this study suggest several practical implications for higher education institutions. Universities should consider integrating hope-enhancing strategies into their student support programs, such as goal-setting workshops, solution-focused coaching, and resilience training. Learning engagement can be promoted through active learning pedagogies, collaborative projects, and opportunities for meaningful academic involvement. Faculty members can play a pivotal role by providing supportive feedback, creating inclusive classroom environments, and fostering students' belief in their academic capabilities. Institutional policies that recognize and reinforce persistence-related behaviors may also contribute to sustaining students' academic commitment. By addressing both cognitive-motivational resources and behavioral engagement, universities can more effectively support students in achieving their academic goals.

Acknowledgments

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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Authors' Contributions

All authors equally contributed to this article.

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